MANCHESTER CODE DELTA DETECTOR

ABSTRACT OF THE DISCLOSURE

A biphase code detector and method for implementing the same. In accordance with one embodiment, the biphase code detector includes a receiver input for receiving a biphase encoded signal. The biphase encoded signal is a stream of unit bit cells each having a logic value encoded as a mid-bit transition between a first half-symbol signal component and a second half-symbol signal component. A demodulator demodulates the first and the second half-symbol components of a received unit bit cell. The biphase code detector further includes a delta detector that generates a difference signal corresponding to the difference between the demodulated values of the first and second half-symbol components to determine the logic value of the received unit bit cell. In a preferred embodiment, the biphase code detector incorporates the delta detection function within an optimum receiver that integrates demodulation and detection functionality. For a given received signal energy, the biphase code detector of the present invention results in an approximate 3dB sensitivity increase in detector gain resulting in a lower probability of error and lower transmission power requirements.